June 26, 2006

City of Indianapolis
DPW
Department of Public Works
Bart Peterson, Mayor

Ric Miller
Fineline Printing Group
8081 Zionsville Road
Indianapolis, IN 46268

Certified Mail: 7000 0600 0023 5187 0212

Re: Registered Construction and Operation Status,
097-22424-00574

Dear Mr. Miller:

The application from Fineline Printing Group, received on December 27, 2005, has been reviewed. Based on the data submitted and the provisions of 326 IAC 2-5.5, it has been determined that the following commercial printing operation, to be located at 8081 Zionsville Road, Indianapolis, Indiana, is classified as registered:

(a) One (1) Heidelberg MOZP 2-color offset sheetfed lithographic press installed in April of 2000, identified as Press 1, with a maximum capacity of 11,000 sheets per hour exhausting inside building.

(b) Four (4) Heidelberg Quickmaster 2-color offset sheetfed lithographic presses installed in April of 2000, identified as Press 2, Press 3, Press 4 and Press 5, with a maximum capacity of 10,000 sheets per hour each, all exhausting inside building.

(c) One (1) Heidelberg SM52 6-color offset sheetfed lithographic press installed in June of 2005, identified as Press 6, with a maximum capacity of 12,000 sheets per hour exhausting inside building.

(d) One (1) Heidelberg Speedmaster 102P 2-color offset sheetfed lithographic press installed in February 2005, identified as Press 7, with a maximum capacity of 12,000 sheets per hour exhausting inside building.

(e) One (1) Heidelberg Speedmaster 74, 6-color offset sheetfed lithographic press installed in October of 2001, identified as Press 8, with a maximum capacity of 10,000 sheets per hour exhausting inside building.

(f) One (1) Heidelberg Windmill Letterpress installed in April of 2000, identified as Press 9, with a maximum capacity of 3,000 sheets per hour exhausting inside building.

(g) One (1) Miehle Letterpress installed in April of 2000, identified as Press 10, with a maximum capacity of 3,000 sheets per hour exhausting inside building.

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (Sixty (60) readings in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor) in a six (6) hour period.

Pursuant to 326 IAC 2-5.5-4(b), Record Keeping Requirements are as follows:

(a) The Permittee shall maintain records for Press 6 and Press 8 in accordance with (1) through (5) below.

(1) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(2) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(3) The volume weighted VOC content of the coatings;

(4) The cleanup solvent usage;

(5) The total VOC usage.

Pursuant to 326 IAC 8-2-5 (Paper Coating Operations), Press 6 and Press 8 shall meet the following:

The Permittee shall not allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of thirty-five hundredths (0.35) kilograms per liter of coating (two and nine-tenths (2.9) pounds per gallon) excluding water, delivered to the coating applicator from a paper, plastic, metal foil, or pressure sensitive tape/labels coating line.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and the City of Indianapolis Office of Environmental Services (OES) that the source is in operation and in compliance with this registration pursuant to (326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204-2251

and

Office of Environmental Service, Compliance Data Group
City of Indianapolis
2700 S. Belmont Avenue
Indianapolis, IN 46221

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) and OES if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Felicia A. Robinson
Administrator

tle

cc: File
Air Compliance – Matt Mosier
IDEM, OAQ – Mindy Hahn
Marion County Health Department
US EPA Region V

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)

Company Name:	**Fineline Printing Group**
Address:	**8081 Zionsville Road**
City:	**Indianapolis, IN 46268**
Authorized individual:	**General Manager of Manufacturing**
Phone #:	**(317) 872-4490**
Registration #:	**097-22424-00574**

I hereby certify that Fineline Printing Group is still in operation and is in compliance with the requirements of Registration 097-22424-00574.

Name (typed):
Title:
Signature:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**Fineline Printing Group**
Source Location:	**8081 Zionsville Road, Indianapolis, IN 46268**
County:	**Marion**
SIC Code:	**2752**
Operation Permit No.:	**097-22424-00574**
Permit Reviewer:	**TJ Edwards**

The Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and Indianapolis Office of Environmental Services (OES) have reviewed an application from Fineline Printing Group relating to the construction and operation of commercial lithographic printing operation.

Permitted Emission Units and Pollution Control Equipment

There are no permitted emission units operating at this source during this review process.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) Heidelberg MOZP 2-color offset sheetfed lithographic press installed in April of 2000, identified as Press 1, with a maximum capacity of 11,000 sheets per hour exhausting inside building.

(b) Four (4) Heidelberg Quickmaster 2-color offset sheetfed lithographic presses installed in April of 2000, identified as Press 2, Press 3, Press 4 and Press 5, with a maximum capacity of 10,000 sheets per hour each, all exhausting inside building.

(c) One (1) Heidelberg SM52 6-color offset sheetfed lithographic press installed in June of 2005, identified as Press 6, with a maximum capacity of 12,000 sheets per hour exhausting inside building.

(d) One (1) Heidelberg Speedmaster 102P 2-color offset sheetfed lithographic press installed in February 2005, identified as Press 7, with a maximum capacity of 12,000 sheets per hour exhausting inside building.

(e) One (1) Heidelberg Speedmaster 74, 6-color offset sheetfed lithographic press installed in October of 2001, identified as Press 8, with a maximum capacity of 10,000 sheets per hour exhausting inside building.

(f) One (1) Heidelberg Windmill Letterpress installed in April of 2000, identified as Press 9, with a maximum capacity of 3,000 sheets per hour exhausting inside building.

(g) One (1) Miehle Letterpress installed in April of 2000, identified as Press 10, with a maximum capacity of 3,000 sheets per hour exhausting inside building.

Existing Approvals

There are no prior approvals for this existing source.

Enforcement Issue

(a) IDEM, OAQ, and OES are aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Unpermitted Emission Units and Pollution Control Equipment".

(b) IDEM, OAQ, and OES are reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Administrator that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on December 27, 2005.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A pages 1 through 12 of this document.

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, inclulding air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential to Emit (tons/yr)
PM	0.00
PM-10	0.00
SO_2	0.00
VOC	18.5
CO	0.00
NO_x	0.00

HAPs	Potential to Emit (tons/yr)
Xylene	0.267
Cumene	0.134
Tolulene	0.650
Hexane	0.493
Glythol Ether	0.098
Total	1.645

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 25 tons per year. The potential to emit of VOC is greater than 10 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

(b) The PTE of a single HAP is less than 10 tpy and the PTE of a combination of HAPs is less than 25 tpy. Therefore, this source is not subject to 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM2.5	nonattainment
PM10	attainment
SO_2	maintenance attainment
NO_2	attainment
8-hour Ozone	basic nonattainment
1-hour Ozone	maintenance attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Marion County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions, pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability for the source section.

(c) Marion County has been classified as attainment or unclassifiable in Indiana for PM10, SO_2, NO_2, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Source Status

New Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	0.00
PM-10	0.00
SO_2	0.00
VOC	18.5
CO	0.00
NO_x	0.00
Single HAP	<10
Combination HAPs	<25

This source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater, no nonattainment pollutant is emitted at a rate of 100 tons per year or greater, and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2 and 2-3, the PSD and Emission Offset requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) 40 CFR 60, Subpart QQ, Standards of Performance for the Graphics Arts Industry: Publication Rotogravure Printing applies to each publication rotogravure printing press, that commenced construction, modification or reconstruction after October 28, 1980. This source does not have any rotogravure printing presses. Therefore, the NSPS requirements are not included in this registration.

(b) 40 CFR 63.820, Subpart KKK, National Emission Standard for the Printing and Publishing Industry applies to major sources of hazardous air pollutants (HAPs), at which publication rotogravure, product and packaging rotogravure or wide-web flexographic printing presses are operated. The printing presses at this source are not subject to the NESHAP, because they are not publication, product and packaging rotogravure printing presses, or wide-web flexographic printing presses, and they are not major for single HAP and combined HAPs. Therefore, these NESHAP requirements are not included in this registration.

(c) 40 CFR 60, Subpart VVV, Standards of Performance for Polymeric Coating of Supporting Substrates Facilities, applies to sources with coating operations and any onsite coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates. Polymeric coating of supporting substrates means a web coating

process that applies elastomers, polymers, or prepolymers to a supporting web other than paper, plastic film, metallic foil, or metal coil. All of the presses located at this source are sheetfed presses. Therefore, these NESHAP requirements are not included in this registration.

(d) 40 CFR 63.3290, Subpart JJJJ, National Emission Standards for Paper and other Web Coating Industry applies to major sources of hazardous air pollutants (HAPs), at which coating of folding paper board boxes, packing paper, label, medical tape, foil, commercial printing, etc. takes place. The presses located at the source are not subject to this NESHAP because the source is not a major source for single HAP or combined HAPs. Web coating in lithography is specifically exempted by § 63.3300(c). Therefore, these NSPS requirements are not included in this registration.

State Rule Applicability – Entire Source

326 IAC 2-1.1-5 (Non-attainment New Source Review)
This source is not major under nonattainment NSR because it has the potential to emit less than 100 tons of PM10 (as surrogate for PM2.5). Therefore, the Non-attainment New Source Review requirements are not applicable.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) and 326 IAC 2-3 (Emission Offset)
This source is not a major stationary source because no attainment regulated pollutant is emitted at equal to or greater than two hundred fifty (250) tons per year. This source is not one of the 28 listed source categories under 326 IAC 2-2 or 326 IAC 2-3. No non-attainment regulated pollutant pollutant is emitted at equal to or greater than one hundred (100) tons per year. There have been no modifications or revisions to this source that were major modifications pursuant to 326 IAC 2-2 or 326 IAC 2-3.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)
The operation of ten (10) Printing Press machines have potential to emit less than 10 tons per year of a single HAP and 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
This source is located in Marion County. However, it is not required to have an operating permit under 326 IAC 2-7 and does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

(a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6.5-1 (Particulate Matter Emission Limitations Except Lake County)
326 IAC 6.5-1 does not apply to this source because the potential to emit particulate matter is less than one hundred tons per year and actual particulate emissions are less than 10 tons per year. Therefore, 326 IAC 6.5-1 does not apply to this source.

326 IAC 6-5-1 (Fugitive Particulate Matter Emission Limitations)
326 IAC 6-5-1 applies to any source of fugitive particulate matter emissions located in nonattainment areas for particulate matter as designated by the board (except for such a source located in Lake County) which has potential fugitive particulate matter emissions of twenty-five (25) tons per year or more. This source does not have any fugitive particulate emissions. Therefore, 326 IAC 6-5-1 does not apply to this source.

State Rule Applicability – Individual Facilities

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
326 IAC 6-3-1(b)(15) does not apply to these printing presses because the presses do not have particulate emissions.

326 IAC 8-1-6 (Volatile Organic Compounds)
This rule applies to facilities constructed after January 1980, which have potential VOC emissions of 25 tons or more per year, and are not regulated by any other provisions of 326 IAC 8. All the facilities at this source were constructed after January 1980, but each has potential VOC emissions of less than 25 tons per year (see TSD Appendix A pages 1 through 12). Therefore, this rule does not apply.

326 IAC 8-2-5 (Paper Coating Operations)
This rule applies to press 6 and press 8 because they are color offset sheetfed lithographic presses with in-line coaters and 100% saturation. Therefore, the Permittee shall not allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of thirty-five hundreths (0.35) kilograms per liter of coating (two and nine-tenths (2.9) pounds per gallon) excluding water, delivered to the coating applicator from a paper, plastic, metal foil, or pressure sensitive tape/labels coating line. 326 IAC 8-2-5 does not apply to the rest of the presses located at the source because they are not web presses and they do not have in-line coaters.

326 IAC 8-5-5 (Graphic Arts Operations)
This rule applies to packaging rotogravure, publication rotogravure, and flexographic printing sources existing as of November 1, 1980, whose potential emissions of volatile organic compounds (VOC) are greater than one hundred (100) tons per year, or new sources after November 1, 1980, located anywhere in the state, with potential emissions of twenty-five (25) tons per year or more of VOC. This rule does not apply because none of the printing presses are rotogravure or flexographic printing presses and the source has potential emissions that are less than 25 tons per year.

Conclusion

The construction and operation of this commercial lithographic printing operation shall be subject to the conditions of Registration 097-22424-00574.

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
Press Specifications
097-22424-00574

Press Number	Sheetfed Offset Lithographic Press Description	Max Print Length (inches)	Max Print Width (inches)	Max Print Area (in^2)	Max Press Speed (sheets/hr)	[1] Max Throughput ($MMin^2/yr$)
Press 1	Heidelberg MOZP, 2-Color	19	25.5	484.5	11,000	46,686.4
Press 2	Heidelberg Quickmaster, 2-Color	18	13.25	238.5	10,000	20,892.6
Press 3	Heidelberg Quickmaster, 2-Color	18	13.25	238.5	10,000	20,892.6
Press 4	Heidelberg Quickmaster, 2-Color	18	13.25	238.5	10,000	20,892.6
Press 5	Heidelberg Quickmaster, 2-Color	18	13.25	238.5	10,000	20,892.6
Press 6	Heidelberg SM52, 5-Color	14	20	280	12,000	29,433.6
Press 7	Heidelberg Speedmaster 102P, 2-Color	28.25	40	1130	12,000	118,785.6
Press 8	Heidelberg Speedmaster 74, 6-Color	20.5	29	594.5	10,000	52,078.2
Press 9	Heidelberg Windmill Letterpress	10	15	150	3,000	3,942.0
Press 10	Miehle Letterpress	20	14	280	3,000	7,358.4

Methodology

[1] Maximum Press Throughput For Sheet-fed Presses ($MMin^2/yr$) = Maximum Print Area (in^2/sheet) * Maximum Press Speed (sheet/hr) * 8,760 (hr/yr) / 1,000,000 ($in^2/MMin^2$)

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
VOC and HAP Emission Calculations
097-22424-00574

Emission Unit ID: **Press 1** **Press Description:** **Heidelberg MOZP, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	46,686	0.150

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	102.08	6.72	41%	1.83
Plate Wash R-7	Blanket Wash	18.65	6.36	41%	0.32
Fountain Soln. Concentrate 2451	Fountain Soln.	11.78	2.21	41%	0.07

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.037
	Cumene	1%	0.018
Plate Wash R-7	Toluene	29%	0.092
	Hexane	22%	0.070
Fountain Concentrate 2451	Glycol Ether	20%	0.014

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
VOC and HAP Emission Calculations
097-22424-00574

Emission Unit ID: **Press 2** **Press Description:** **Heidelberg Quickmaster, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	20,893	0.067

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	45.68	6.72	41%	0.82
Plate Wash R-7	Blanket Wash	8.35	6.36	41%	0.14
Fountain Soln. Concentrate 2451	Fountain Soln.	5.27	2.21	41%	0.03

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.016
Plate Wash R-7	Cumene	1%	0.008
	Toluene	29%	0.041
	Hexane	22%	0.031
Fountain Concentrate 2451	Glycol Ether	20%	0.006

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
VOC and HAP Emission Calculations
097-22424-00574

Emission Unit ID: **Press 3** **Press Description:** **Heidelberg Quickmaster, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	20,893	0.067

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	45.68	6.72	41%	0.82
Plate Wash R-7	Blanket Wash	8.35	6.36	41%	0.14
Fountain Soln. Concentrate 2451	Fountain Soln.	5.27	2.21	41%	0.03

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.016
	Cumene	1%	0.008
Plate Wash R-7	Toluene	29%	0.041
	Hexane	22%	0.031
Fountain Concentrate 2451	Glycol Ether	20%	0.006

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
VOC and HAP Emission Calculations
097-22424-00574

Emission Unit ID: **Press 4** **Press Description:** **Heidelberg Quickmaster, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	20,893	0.067

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	45.68	6.72	41%	0.82
Plate Wash R-7	Blanket Wash	8.35	6.36	41%	0.14
Fountain Soln. Concentrate 2451	Fountain Soln.	5.27	2.21	41%	0.03

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.016
	Cumene	1%	0.008
Plate Wash R-7	Toluene	29%	0.041
	Hexane	22%	0.031
Fountain Concentrate 2451	Glycol Ether	20%	0.006

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
FineLine Printing Group
Indianapolis, Indiana
VOC and HAP Emission Calculations
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Emission Unit ID: **Press 5** **Press Description:** **Heidelberg Quickmaster, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	20,893	0.067

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	45.68	6.72	41%	0.82
Plate Wash R-7	Blanket Wash	8.35	6.36	41%	0.14
Fountain Soln. Concentrate 2451	Fountain Soln.	5.27	2.21	41%	0.03

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.016
	Cumene	1%	0.008
Plate Wash R-7	Toluene	29%	0.041
	Hexane	22%	0.031
Fountain Concentrate 2451	Glycol Ether	20%	0.006

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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Emission Unit ID: **Press 6** **Press Description:** **Heidelberg SM52, 5-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	2.5	20%	5%	29,434	0.364
Aqueos Coating Q1514B	Coating	0.5	2.51%	100%	29,434	0.185

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	64.36	6.72	41%	1.16
Plate Wash R-7	Blanket Wash	11.76	6.36	41%	0.20
Fountain Soln. Concentrate 2451	Fountain Soln.	7.43	2.21	41%	0.04

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.023
	Cumene	1%	0.012
Plate Wash R-7	Toluene	29%	0.058
	Hexane	22%	0.044
Fountain Concentrate 2451	Glycol Ether	20%	0.009

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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Emission Unit ID: **Press 7** **Press Description:** **Heidelberg Speedmaster 102P, 2-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	0.65	20%	5%	118,786	0.382

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	259.74	6.72	41%	4.66
Plate Wash R-7	Blanket Wash	47.45	6.36	41%	0.81
Fountain Soln. Concentrate 2451	Fountain Soln.	29.97	2.21	41%	0.18

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.093
	Cumene	1%	0.047
Plate Wash R-7	Toluene	29%	0.234
	Hexane	22%	0.177
Fountain Concentrate 2451	Glycol Ether	20%	0.035

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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Emission Unit ID: Press 8 **Press Description: Heidelberg Speedmaster 74, 6-Color**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
Various Braden Sutphin Inks	Ink	2.5	20%	5%	52,078	0.644
Aqueos Coating Q1514B	Coating	0.5	2.51%	100%	52,078	0.327

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	113.87	6.72	41%	2.04
Plate Wash R-7	Blanket Wash	20.80	6.36	41%	0.35
Fountain Soln. Concentrate 2451	Fountain Soln.	13.14	2.21	41%	0.08

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.041
	Cumene	1%	0.020
Plate Wash R-7	Toluene	29%	0.102
	Hexane	22%	0.078
Fountain Concentrate 2451	Glycol Ether	20%	0.016

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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Emission Unit ID: **Press 9** **Press Description:** **Heidelberg Windmill Letterpress**

VOC Emissions from Inks and Coatings

Product Name	Product Type	Maximum Coverage (lbs/MMin^2)[1]	VOC Content (wt%)[2]	Flash Off (%)[3]	Throughput MMin^2/Year	Potential VOC Emissions (tpy)[4]
S/D Rubber Base	Ink	0.5	20%	5%	3,942	0.010

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	Potential VOC Emissions (tpy)[5]
Economy Wash	Blanket Wash	8.62	6.72	41%	0.15

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.003
	Cumene	1%	0.002

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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VOC and HAP Emission Calculations
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Emission Unit ID: **Press 10** **Press Description:** **Miehle Letterpress**

VOC Emissions from Inks and Coatings

Product Name	Product Type	[1] Maximum Coverage (lbs/MMin^2)	[2] VOC Content (wt%)	[3] Flash Off (%)	Throughput MMin^2/Year	[4] Potential VOC Emissions (tpy)
S/D Rubber Base	Ink	0.5	20%	5%	7,358	0.018

VOC Emissions from Fountain Solution and Press Cleaning

Product Name	Product Type	Actual Usage (gal/yr)	VOC Content (lb/gal)	Operating Capacity (%)	[5] Potential VOC Emissions (tpy)
Economy Wash	Blanket Wash	16.09	6.72	41%	0.29

HAP Emissions

Product Name	HAP Constituent	HAP Content (wt%)	Potential HAP Emissions (tpy)
Economy Wash	Xylene	2%	0.006
	Cumene	1%	0.003

Methodology

[1] Max. coverage is assumed to be the mid-point of the typical coverage for process color presses discussed in IDEM's Compliance and Pollution Prevention Guidebook for Indiana Printers.

[2] VOC Content (wt%) is determined from the MSDS for the "worst case" product within the product type used on the identified press

[3] Flash off % is determined from the EPA CTG Document for Offset Lithographic Printing

[4] VOC PTE from Inks and Varnishes (tpy) = Maximum Coverage x VOC Content (wt%) x Flash Off % x Throughput x 1 ton/2000 pounds x Maximum % Operation Time

[5] VOC PTE from Press Cleaning and Fountain Solution (tpy) = Actual VOC Emissions (tpy) x 8,760 (hr/yr) / (Hours of Production (hr/yr) x Operating Capacity (%))

Appendix A: Emission Calculations
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Emissions Summary
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	Potential to Emit (tpy)						
Emission Unit or Emitting Activity	PM	PM_{10}	SO2	VOC	CO	NO_X	HAPs
Press 1	-	-	-	2.37	-	-	0.230
Press 2	-	-	-	1.06	-	-	0.103
Press 3	-	-	-	1.06	-	-	0.103
Press 4	-	-	-	1.06	-	-	0.103
Press 5	-	-	-	1.06	-	-	0.103
Press 6	-	-	-	1.95	-	-	0.145
Press 7	-	-	-	6.03	-	-	0.586
Press 8	-	-	-	3.45	-	-	0.257
Press 9	-	-	-	0.16	-	-	0.005
Press 10	-	-	-	0.31	-	-	0.009
Total				**18.50**			**1.645**